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Oil Price Vulnerability and Macroeconomic Factors: In the Face of Foreign Exchange Shortages in Bolivia

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Abstract

Establishing the causal relationship between international oil prices and the macroeconomic factors of Bolivia's economic and social activity are an instrument for its economic development and public policies, vulnerability in the international oil market has modified the price of crude oil, but also production, refining, logistics costs and uncertainty about energy supply and even more so in a scenario of macroeconomic instability. given its high dependence on the import of diesel and gasoline fuels.

Thus, the objective of this research is to identify, analyze and determine which are the causal variables of the oil price, this variable is dependent on the study variables such as fuel imports, international reserves, exchange rate and inflation, and fiscal and trade balances that will be studied, in a scenario of shortage of foreign currency in Bolivia.

From a time series sample from 2006 to 2026, the study variables will be analyzed, with the polynomial projections of each of the variables in relation to the price of oil. Subsequently, we developed a multiple regression, with the six independent variables in correlation to the price of oil, the results obtained yielded six variables with positive coefficients and the most correlated are the exchange rate, inflation and fuel imports and the least influential are net international reserves and fiscal and trade balances, the regression of the econometric model reached a 91% multiple correlation.

Keywords: oil price, fuel imports, exchange rate, inflation

Introduction

Determining the causal relationship of oil prices with the macroeconomic factors that are part of the economic activities carried out by a country can serve as an instrument for the development of public policies, even more so if it is taken into account that oil is the main source of energy Dogah & Dogah (2015), suggest that oil is an essential energy source, an irreplaceable fuel for transport and an indispensable raw material in many manufacturing processes, according to Alonso & Martínez Quintero (2017) any movement in the price of oil of this commodity implies movements in macroeconomic aggregates.

According to Rojas *et. al.* (2023) Oil is expressed in an international price, which is considered a significant exogenous variable for economies worldwide and the main problem lies in the fact that the price of this commodity has experienced many fluctuations over time. For the authors El Anshasy & Bradley (2012), oil prices in exporting countries affect their fiscal policy and fiscal balance according to the vulnerability of the price of oil.

According to the authors Ibrahim & Adabor (2023), supply-driven increases in oil prices can lead to a combination of higher inflation and lower growth, known as stagflation and accompanied by devaluations in the exchange rate. While lower oil prices are a less important factor in production, this reasoning should work the other way around when crude oil prices decline, it should translate into lower production costs, higher hiring, and lower inflation and a more highly evaluated exchange rate (Long and Liang, 2018).

According to researcher Ibrahim (2015) the price of oil affects both importing and exporting countries, when the price of oil rises, countries that do not produce oil are affected, as they have to import into the international market, causing imbalances in their fiscal balances and their foreign exchange reserves, while countries that produce and export oil are benefited. When the price of oil falls, the expenditure made by importing countries decreases, this affects the economic growth of the producing countries. Philips *et. al.* (2022) also analyzed the price of oil and the profitability of shares, both in oil-importing and exporting countries and influences the reserves of their Central Banks.

Fluctuations in the price of oil have a direct effect on transport rates, which influences the cost of moving people, goods and services from one point to another, i.e. on the Trade Balance (Henseler and Maisonnave, 2018).

Changes in the price of oil can affect inflation and the exchange rate since oil is one of the main sources of energy for the production of manufactured goods and in its balance of trade (Shrestha *et. al.*, 2019 and Pal & Mitra, 2018). In the BRICS countries, Li and Guo (2022) found that the asymmetric relationship between the price of oil and inflation and the exchange rate was only manifested in China in the short term.

The impact of oil price shocks on economic activities is well documented, and a large part of the literature shows the adverse effect of such shocks on inflation, stock market development, industrial production, real GDP growth, agricultural products, and others (Davari and Kamalian, 2018 and Babuga and Naseem, 2021).

The literature that focuses on the adverse effect of oil prices on inflation suggests that this effect can also be transmitted through several channels, including domestic prices, the trade and financial

balance (Allegret *et. al.*, 2015) and on job reallocation (Herrera & Karaki, 2015).

Other studies have also studied how changes in the price of oil affect other key sectors of the economy and have reported that changes in the price of oil have an impact on other sectors including the food and agricultural sector (Dillon and Barrett, 2016) and the transport and aviation sector (Hansman *et al.*, 2014).

In a recent study, Husaini and Lean (2021) examined the impact of the exchange rate and the price of oil on the producer price index (PPI) and the consumer price index (CPI) in oil-exporting countries.

In this context, for Bolivia it is not annexed to external shocks, mainly from the international price of oil, and even more so in a scenario of macroeconomic instability, given its high dependence on imports and the subsidization of diesel and gasoline fuels and the scarcity of foreign currency in international reserves, causing the volatility of the exchange rate and the rise in national prices with the elimination of the fuel subsidy, mainly and also aware of their fiscal and trade balances, deficits and chronicles Vargas *et. al.* (2023a and b), (2025b) and (2026a and b).

Similarly, the research of Vargas *et. al.* (2002a) (2003a), (2024b) and (2025a) agree that oil and gas exploration was not possible, nor were they able to maintain and sustain the import and subsidization of gasoline and diesel oil with the generation of sources of foreign exchange income or dollars with "renewable resources" with a productive apparatus and formal employment, rather with extractivist public policies or "non-renewable resources" such as the export sale of raw materials such as gas natural, mineral, among others (Vargas *et. al.* 2023a and b).

And the authors Vargas *et. al.* (2026a) analyze how macroeconomic variables were affected by the import and subsidization of fuels in the face of a high level of corruption, fuel prices and smuggling as Bolivia is a country that is located in the center of South America and now with the elimination of the fuel subsidy, the behavior of fuel imports and macroeconomic variables will be affected, knowing that the International Monetary Fund (2026) in its outlook report for 2026 puts Bolivia as the only country with a negative recession of -3.3 of its Gross Domestic Product growth rate added to an inflation of 26%.

Thus, the objective of this research is to identify, analyze and determine which are the conclusive variables of the price of oil and is dependent on the variables of study mainly the import of fuels, international reserves, the exchange rate and inflation and the fiscal and commercial balances that will be studied, in a scenario of scarcity of foreign currency in Bolivia. To this end, we will develop a literature review and a regression analysis by individual variables and a linear regression to identify which variable correlates with the fuel subsidy.

Study variables and regression models

To analyze these data, we will first make the polynomial projections of the entire sample and individually for each of the study variables, the polynomial variables are mainly used in regression analysis to model nonlinear relationships between variables by creating a trend line or calculating a polynomial equation from a set of data. To identify cyclical patterns or complex curves with increasing and decreasing trends and to be able to compare which of the economic models is more accurate,

the following equations by study variables were used, polynomial regression by degrees according to study variables:

$$OP_t = x\beta^6 + x\beta^5 + x\beta^4 + x\beta^3 + \beta^{\times 3} + x\beta^2 + x + u\beta$$

Equations of the independent variables of degree 3:

Equation of the dependent variable of degree 3:

(1) $OP_t = x\beta^3 + x\beta^2 + x + u\beta$

(2) $FI_t = x\beta^3 + x\beta^2 + x + u\beta$

(3) $FI_t = x\beta^3 + x\beta^2 + x + u\beta$

(4) $ER_t = x\beta^3 + x\beta^2 + x + u\beta$

(5) $IN_t = x\beta^3 + x\beta^2 + x + u\beta$

(6) $FB_t = x\beta^3 + x\beta^2 + x + u\beta$

(7) $BT_t = x\beta^3 + x\beta^2 + x + u\beta$

Where:

OP: Oil Price (OP)

β_n : Regression coefficients

Xn: Degrees of Regression

FI: Fuel Import (FI)

IR: International Reserves (IR)

ER: Exchange Rate (ER)

IN: Inflation (IN)

FB: Fiscal Balance (FB)

BT: Trade Balance (BT)

u: Error term

t: Time

In addition, to estimate that the multivariate linear regression model, following the proposed methodology and the variables mentioned in the previous sections. We will apply this equation to the joint analysis of macroeconomic variables following the methodology (Vargas *et. al.* 2024a), the following equation, regression for economic models, was used

$$OP_t = + \alpha \beta_{1FI} + \beta_{2IR} + \beta_{3ER} + \beta_{4IN} + \beta_{5FB} + \beta_{6BT} + u$$

Where:

OP: Oil Price (OP)

β_n : Regression coefficients

Xn: Degrees of Regression

FI: Fuel Import (FI)

IR: International Reserves (IR)

ER: Exchange Rate (ER)

IN: Inflation (IN)

FB: Fiscal Balance (FB)

BT: Trade Balance (BT)

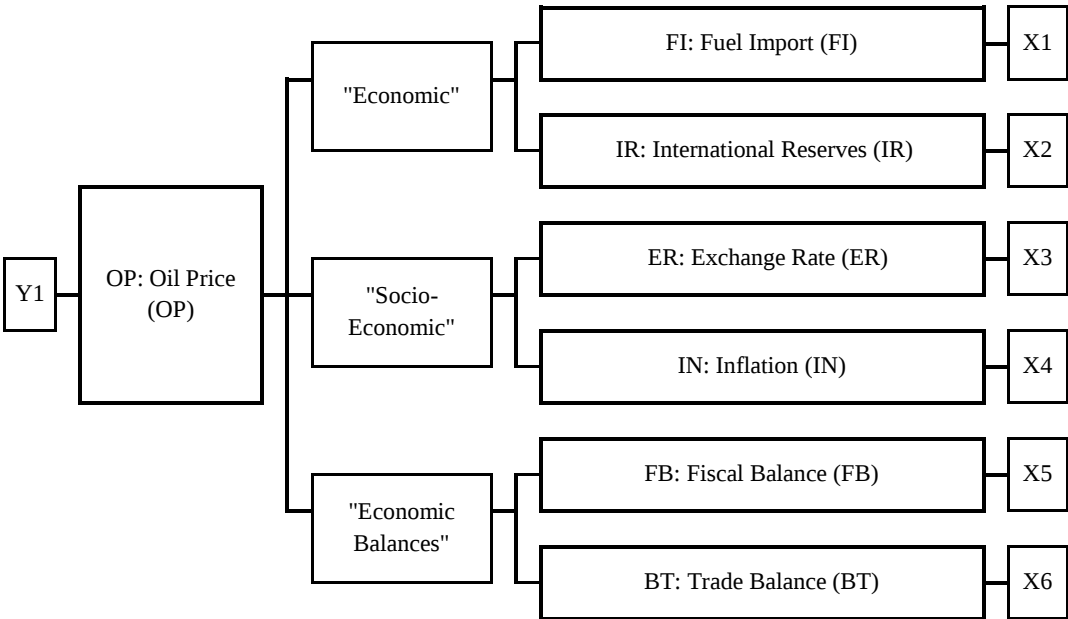
u: Error term

t: Time

Once multivariate regression has been analyzed, we move on to multivariate linear regression models. First, we will explain the OP variable through the "economic" determinants that demand foreign currency such as fuel imports and international reserves, we will continue with the "socio-economic" determinants that are the exchange rate and inflation and we will finish with the "economic balance" determinants such as the fiscal balance and the trade balance. the following equations will be used, the regression for economic models, following the methodology of (Vargas, 2010).

To all of the above in the reference framework, we identify and focus on six explanatory variables of the aforementioned research, with a survey of the information of the General Budget of the State of Bolivia, the study variables are: the import of fuels, international reserves, the exchange rate and inflation and the fiscal and commercial balances, all of which explain the price of oil, see Table 1.

Table 1. Explanatory economic variables



Source: Authors' elaboration based on Vargas *et. al.* (2025)

For better understanding and analysis, we will develop the study for the entire period of the twenty-year sample from 2014 to 2025 of each economic variable of study and separately. To point out that in order to have a twelve-year sample comparability and considering that the Strait of Hormuz conflict between the US and Iran began on February 28, 2026, reintroduced instability in the international oil market, raising not only the price of crude oil, but also refining premiums, logistics costs and uncertainty about global energy supply, we had to enter the recorded and accounted data by April 2026.

Table 2 shows the study variables, description, unit of measurement and data source for the respective regressions mentioned above.

Table 2: Summary of data of the study variables

Variable	Description	Unity	Data Source
OIL PRICE	Average Brent and West Texas Intermediate (WTI) Average Measured	By (USD/Barrel)	World Bank (2026) and Investing (2026)
FUEL IMPORTS	Measure for the import of fuels from Bolivia	By (USD MM)	Indicators of the General Budget of the State of Bolivia, published by the National Institute of Statistics (2026) and the Ministry of Economy and Finance (2026) and Bolivian Fiscal Oil Fields (2026)
NET INTERNATIONAL RESERVES	Measured by Bolivia's gold, foreign exchange and special drawing rights reserves	By (USD MM)	Data published by the Central Bank of Bolivia (2026) and Ministry of Economy and Finance (2026)
EXCHANGE RATE	Measured by the rate or exchange rate between two currencies, the ratio of proportion that exists between the value of one currency and the other	By (Bs/USD)	Indicators of the General Budget of the State of Bolivia, published by the National Institute of Statistics (2026), the Ministry of Economy and Finance (2026) and Bolivia dollar today (2026)
INFLATION	Measured by Consumer Price Index prices	Percent (%)	Indicators of the General Budget of the State of Bolivia, published by the National Institute of Statistics (2026)
SCALES TAX	Measured by the income and expenditure of the State generating a surplus or deficit with respect to GDP	Percent (%)	Indicators of the General Budget of the State of Bolivia, published by the Ministry of Economy and Finance (2026)
TRADE BALANCE	Measured by the results of exports and imports generating a surplus or deficit with respect to GDP	Percent (%)	Indicators of the General Budget of the State of Bolivia, published by the National Institute of Statistics (2026), the Ministry of Economy and Finance (2026) and the Chamber of Exporters of Bolivia (2026)

Source: Own elaboration

Analysis for each study variable

In addition to all that has been studied in the previous sections described, we will collect, interpret, compare and analyse the economic variables under study, first from the polynomial regression and later from the multiple regression.

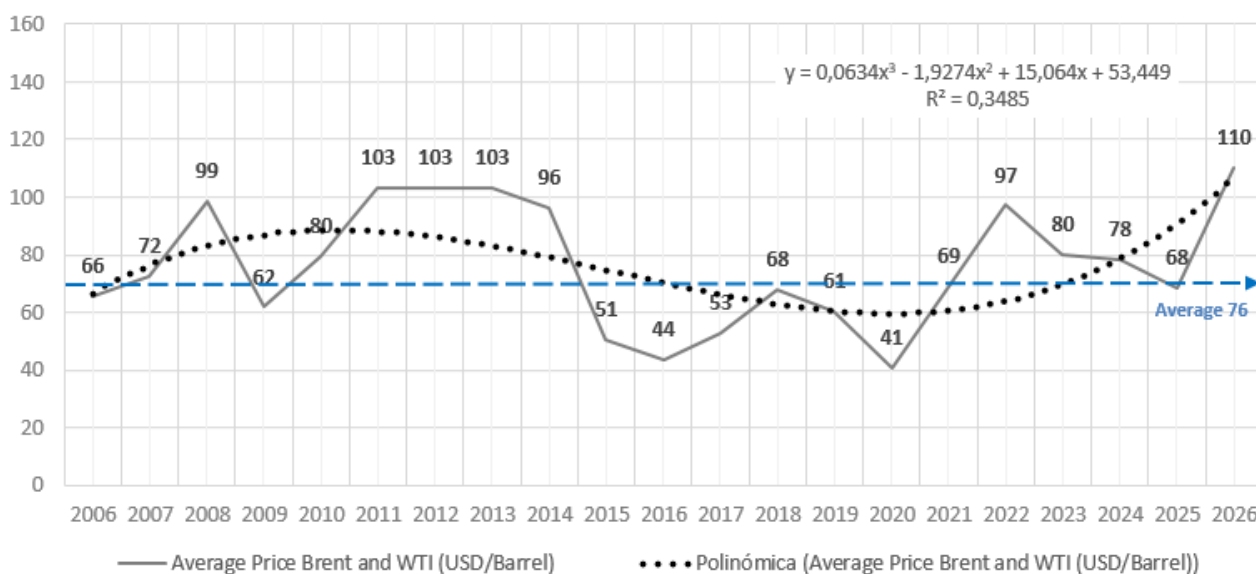
The price of oil

The price of oil according to data from the World Bank (2026), Energy Information Administration (2026) and Investing (2026) was considered the average of the Price Brent and West Texas Intermediate (WTI) (USD/Barrel), it has had a significant cyclical growth in the twenty years in 2006 the price of a barrel was 66 dollars, in 2008 it marked a maximum of 99 dollars, Due to the high global demand and speculation, between 2011-2014 known

as the bonanza, during this period, the price remained stable and high, frequently oscillating around 100 dollars per barrel. From 2015 to 2018 it was characterized by the surplus crisis, which caused the price to fall to an average low of 54 dollars per barrel, due to a global oversupply driven by *U.S. shale oil*. In 2020, the price of oil fell to its historical level due to the pandemic and negative prices, due to the total collapse of demand due to COVID-19 and the lack of storage capacity, closing the year with 41 dollars per barrel. By 2022, with the War in Ukraine, the price of oil shot up again with a peak, with the Russian invasion of Ukraine boosting the price again above 97 per barrel. And by April of this year, 2026, the current situation had a recent peak, in March 2026, geopolitical tensions in the Middle East between the conflict between the US and Iran brought the price to peaks of 110 dollars the price of a barrel of oil, see Graph 1.

Graph 1. International oil price on average and polynomial regression

Period: 2006 to 2026 (price dollars per barrel)



Source: From the World Bank (2026) and Investing (2026)

The third-degree polynomial projection of the oil price variable was with a constant cyclical trend and the average oil price from 2006 to 2026 reached 76 dollars per barrel price and with a non-significant square coefficient of determination R^2 of 0.34, see the equation in Graph 1. Once the variable oil price has been analyzed, we move on to study its independent study variables.

The price of oil and the study variables

For a better understanding, we will explain and compare each independent variable of study with the international price of oil by group of determinants such as economic determinants, socio-economic determinants and determinants of economic balances such as the fiscal and commercial balance with their respective deficits or surpluses.

Economic determinants

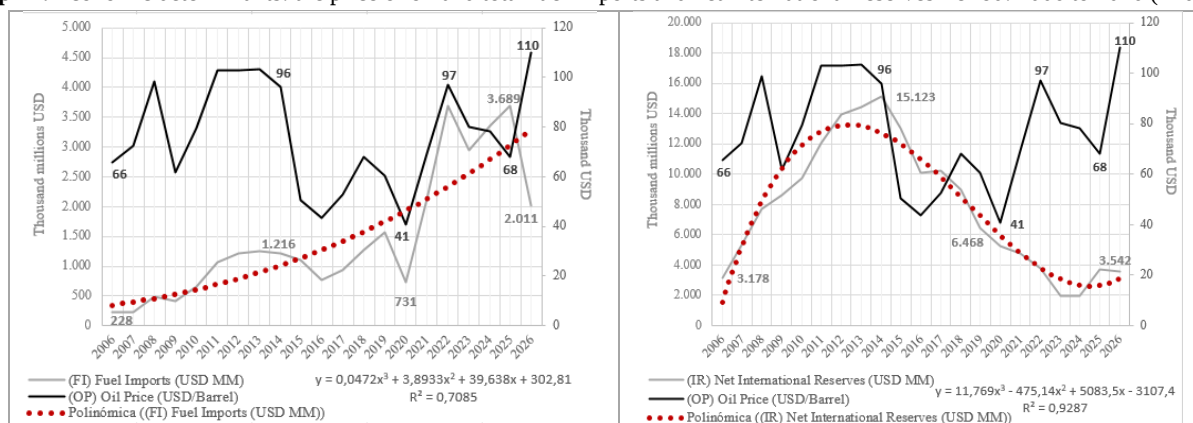
The price of oil and total fuel imports: if we compare separately the OP variable and the total import of fuels, with their respective polynomial projections of the third degree, it shows us a moderate cyclical trend over the twenty years where the OP had a significant R^2 coefficient of determination 0.34 and the total import of fuels

was higher with a significant R^2 0.70 with a moderate increasing growth in fourteen years, but in the last five years it has had a growing and significant growth, see the equations in Graph 2.

The price of oil and net international reserves: Bolivia for 2006 reached an international reserve of 11.65% with respect to GDP and reached its highest peak in 2014 at 37.26% with 15 billion dollars, from that year it had a downward trend reaching the year 2023 only 3.35% with respect to GDP the lowest in the last thirty years and by 2025 at 5.9%, see Graph 2.

The polynomial projections of the third degree show us an increasing and then decreasing trend of the RIN in the twenty years, where these reserves reached a very significant coefficient of determination R^2 of 0.92 and the OP was lower with a non-significant R^2 0.34, we can deduce that OP has a direct relationship, to supply the automotive market with the import of gasoline and diesel fuels, the RIN was used since this variable depends on the foreign currency in dollars and in view of this shortage of dollars, it was necessary to resort to savings from reserves in dollars, see the equations in Graph 2.

Graph 2. Economic determinants: the price of oil and total fuel imports and net international reserves Period: 2006 to 2026 (In dollars)



Source: From the Ministry of Economy and Finance (2026), Central Bank of Bolivia (2026) and World Bank (2026) and Investing (2026)

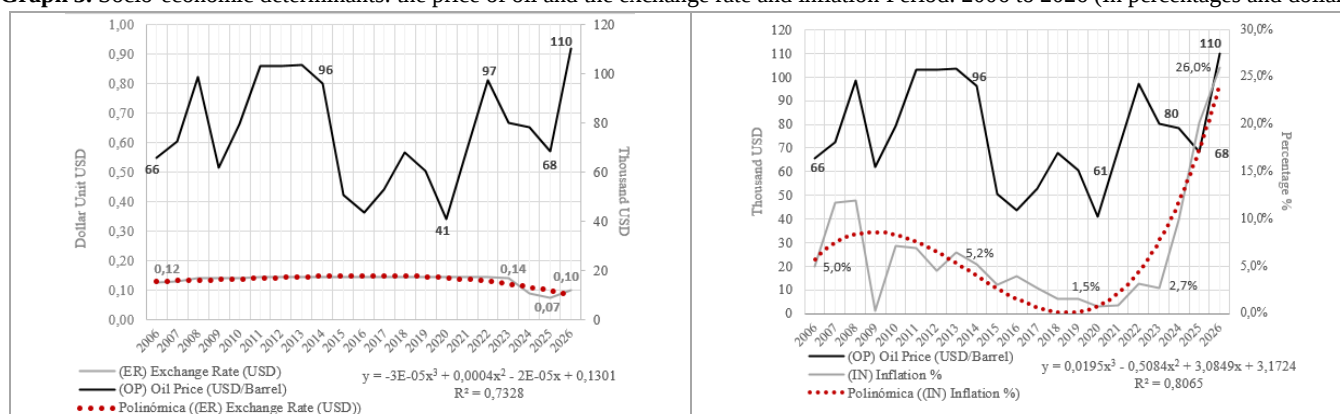
Socio-economic determinants

The price of oil and the exchange rate: Bolivia has maintained a fixed exchange rate from 2011 to 2023 and from that year the exchange rate was devalued and began to rise from 8 bolivianos per dollar to almost 18 bolivianos per dollar by 2025, due to the shortage of foreign currency to cover the total import costs of fuels and the fall in exports of natural gas (Vargas *et. al.* 2002a). The respective projections of the third-degree polynomial exchange rate show us a moderate and then decreasing and significant trend in recent years, where this exchange rate had a significant coefficient

of determination R^2 of 0.73 and greater than the OP was, see the equations in Graph 3.

The price of oil and inflation: if we compare separately the inflation variable and the OP, with their respective third-degree polynomial projections, inflation shows us a moderate cyclical trend from 2026 to 2023, from this year inflation soared until it reached 10% inflation in 2024 and by 2025 it doubled to 20%, all this is due to the shortage of foreign currency, especially dollars, to import fuels, leaving the exchange rate fixed and moving to volatility and price variability. In this sense, inflation had a higher and significant coefficient of determination R^2 of 0.80 higher than OP, see the equations in Graph 3.

Graph 3. Socio-economic determinants: the price of oil and the exchange rate and inflation Period: 2006 to 2026 (In percentages and dollars)



Source: Based on the INE (2026), Ministry of Economy and Finance (2026), Central Bank of Bolivia (2026) and World Bank (2026) and Investing (2026)

Economic balance sheets are decisive

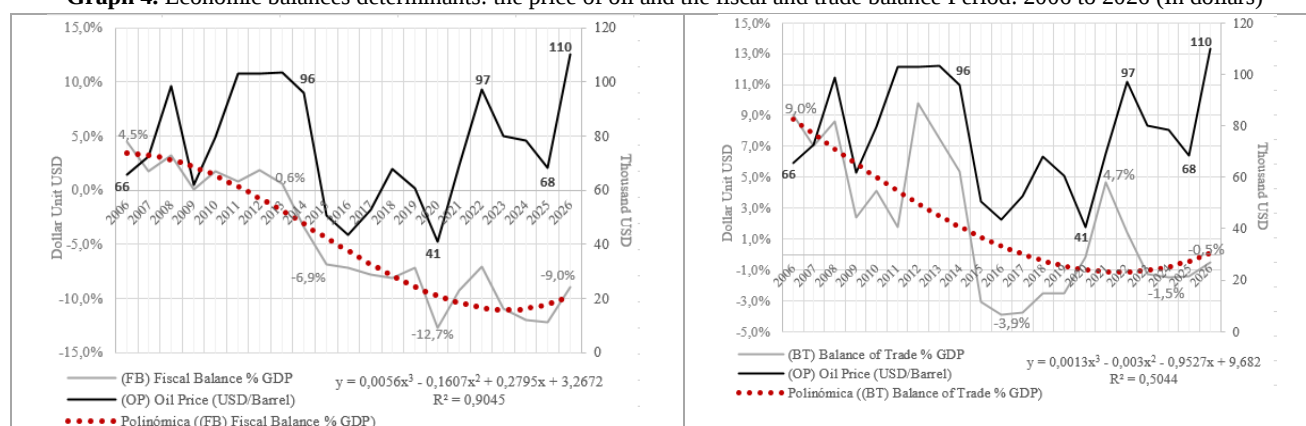
The price of oil and the fiscal balance: as can be seen in Graph 2, the fiscal balance shows between 2006 and 2025 deficits and surpluses, from 2006 to 2026 there is a surplus of the fiscal balance where there was the bonanza of natural gas exports, the highest peak was in 2006 with 4.5% and from that year the fiscal surplus has been falling until 2013, from 2014 the fiscal deficit begins from 2014 to 2025 this year it was estimated (-9.5%) but closed the year 2025 with (-12%) having a fiscal deficit an average of (-4.4%) in the twenty years, see equation and Graph 4. With their respective third-degree polynomial projections, it shows us a decreasing trend in the fiscal balance in the twenty years where this fiscal balance had a very significant coefficient of determination R^2 of 0.90 and also higher than the OP with a significant R^2 0.34, this is because to cover the import of fuels it was necessary to

resort to public spending exceeding public revenues generating a chronic fiscal deficit of eleven consecutive years, see the equations in Graph 4.

The price of oil and the trade balance: the trade balance is the difference between a country's exports and imports, Bolivia has maintained a positive trade surplus since 2006 with 9% reaching its highest peak in 2012 of 3,401 million dollars and with a surplus until 2015. but since then it has entered a trade deficit by 2023 it reached -697 million dollars, and by 2025 the trade balance was negative and deficit of (-1.4%), see Graph 4.

The respective polynomial projections of the third degree show us a decreasing trend in the trade balance in the twenty years where this trade balance had a moderate R^2 coefficient of determination of 0.49 and the total import of fuels was higher with a significant R^2 0.50, we can deduce that the exporting productive apparatus was not able to cover the import of fuels since this variable depends on the foreign currency dollars, see the equations in Graph 4.

Graph 4. Economic balances determinants: the price of oil and the fiscal and trade balance Period: 2006 to 2026 (In dollars)



Source: From the INE (2026), Ministry of Economy and Finance (2026), Chamber of Exporters of Bolivia (2026) and World Bank (2026) and Investing (2026)

In addition to all that has been described in previous paragraphs, developing the study and analysis individually of each of the independent variables with respect to the dependent variable that is oil price, we were able to model the trends of each of the variables with their complex and non-linear data using a curve that adjusts to the fluctuating data through their respective third-degree polynomial projections. the results of the polynomial variables

analyzed showed us the peaks and valleys and their adjusted R^2 shown in Table 3, the most significant independent variables of the six analyzed greater than 0.34% and ranging from lowest to highest are the IR, FB, IN, ER, FI and BT and of these variables the most significant with a value greater than 0.90% are the IR and the FB. On the other hand, less than 0.80 and 0.70% are the IN, ER and FI variables and the BT variable with 0.50%.

Table 3. Results of the studied variables of polynomial regression

<i>Dependent variable</i>	<i>R²</i>	<i>Independent variables</i>	<i>R²</i>
(OP) Oil Price	0.34 <	Economic Determinants	
		(IR) Net International	0,92
		(FI) Fuel Imports	0,70
		Socio-Economic Determinants	
		(IN) Inflation	0,80
		(ER) Exchange Rate	0,73
		Determining Economic Balances	
		(FB) Fiscal Balance	0.90
		(BT) Balance of Trade	0,50

Source: Own elaboration

Analysis and discussion of the results of multiple regression

Once the individual analysis of each independent variable in relation to the price of oil has been made, we apply the multiple regression estimates and their equation is as follows:

$$OP = + \alpha \beta_{1FI} + \beta_{2IR} + \beta_{3ER} + \beta_{4IN} + \beta_{5FB} + \beta_{6BT} + u$$

In Table 4, it can be seen in the model that the multiple correlation of the price of oil has a multiple correlation with the independent variables, the multiple correlation coefficient is 91%, with a coefficient of determination R^2 is 83% and an adjusted coefficient of R^2 of 78%.

Table 4. Results of the variables studied in the multiple regression

<i>Regression statistics</i>		<i>Interception</i>	<i>Coefficients</i>	<i>Probability</i>
Multiple correlation coefficient	0,911493074	-61,90832	0,09946817	(FI) Fuel Imports
Coefficient of determination R^2	0,830819625	0,0162673	0,00020956	(IR) Net International Reserves
R^2 Adjusted	0,78831375	0,0009323	0,20788472	(ER) Exchange Rate
Typical error	10,41208604	707,23949	0,00912305	(IN) Inflation
Observations	21	2,5780111	0,00089743	(FB) Fiscal Balance
		1,4867566	0,12128609	(BT) Balance of Trade
		1,5222401	0,10878879	

Source: Own elaboration

From all that has been studied, we can conclude that the determining factors of the price of oil according to the multiple regression in twenty-one years are the expected results, where the most explanatory and positive correlated variables are the exchange rate (ER), inflation IN, the fiscal balance (FB) and the trade balance (BT), fuel imports (FI) and Net International Reserves (IR). This tells us that the more the dependent variable changes the price of oil for each unit that one of the independent variables increases, keeping everything else constant. Regarding

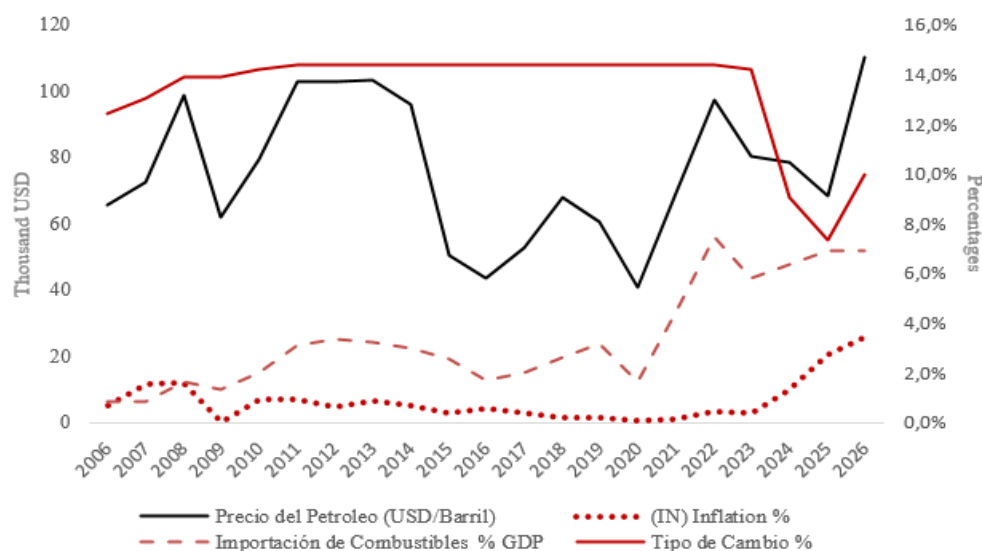
statistical significance or probability, all independent variables in that order are lower FI (0.0002), IN (0.0008), ER (0.009) to 0.05, therefore, all independent variables are significant with respect to the price of oil. However, the FB (0.1), BT (0.1) and IR (0.2) variables are greater than 0.05, therefore, they are not significant, so we can deduce that these variables do not have a real effect on the price of oil, see Table 4.

Comparing their peaks and valleys with the analysis of polynomial variables, it is clearer that fuel imports (0.70), the exchange rate

(0.73) and inflation (0.80) are variables that are affected by the price of oil in the face of the scarcity of dollars and are the most determining and relevant factors of the study analysis. although the FB (0.1), BT (0.1) and IR (0.2) variables are explanatory, they are variables that not only depend on the price of oil, they also depend on other public expenditures such as the fiscal balance and the production and import and export of the trade balance (BC). With respect to the economic determinants, fuel imports (FI) are

the most explanatory and significant variable dependent on the price of oil, but international reserves (IR) are explanatory, but not significant. Of the socio-economic determinants, both variables (ER) and inflation (NI) are the significant and explanatory variables with respect to the price of oil, while the determinants of economic balance sheets (FB) and (BT) are explanatory, but not significant, see Graph 5.

Graph 5. Determinants of the price of oil and fuel imports, inflation and the exchange rate Period: 2006 to 2026 (In percentages and dollars)



Source: From the National Institute of Statistics (2026), Central Bank of Bolivia (2026), Ministry of Economy and Finance (2026)

In Graph 5, the economic determinants, as can be seen that from 2021 to 2025 fuel import expenditure rose from 1,568 billion dollars, which went from 2.2% to 7% with respect to GDP and represents 3,689 billion dollars and considering that the price of oil was low with 68 dollars per barrel of oil, but by April 2026 the budget was modified and dropped to 2,011 billion dollars of fuel import expenditure and despite the fact that the price of oil reached more than 110 dollars a barrel of oil with the conflict between the US and Iran. With respect to the other graph of the socio-economic determinants, inflation rose from 0.9% in 2021 to 20% by 2025 and the fixed exchange rate stood for eleven consecutive years from 2011 to 2023 with 0.14% and was later devalued to 0.07% by 2025 and 0.10% in 2026. but with a volatility of the exchange rate as of February 2023 due to the shortage of foreign currency.

Conclusions

We can conclude that the causal relationship of oil prices with the macroeconomic factors that are part of Bolivia's economic activities was determined. The results of the polynomial variables analyzed showed us the peaks and valleys and their adjusted R^2 , the most significant independent variables of the six analyzed greater than 0.34% to the price of oil and ranging from lowest to highest are the IR, FB, IN, ER, FI and BT and of these variables the most significant with a value greater than 0.90% are the IR and the FB. On the other hand, less than 0.80% and greater than or equal to 0.70% are the IN, ER and FI variables and the BT variable is the lowest and least significant but higher than the price of oil with 0.50%.

Of the determining factors of the price of oil according to the multiple regression in twenty-one years, the results were as expected, where the most explanatory and positive correlated

variables and with respect to statistical significance or probability all the independent variables in that order are lower FI (0.0002), IN (0.0008), ER (0.009) to 0.05, therefore, all independent variables are significant with respect to the price of oil. However, the FB (0.1), BT (0.1) and IR (0.2) variables are greater than 0.05, therefore, they are not significant, but they are vulnerable to significant changes in the international price of oil.

We can also conclude that, of the economic determinants, the most influential variable is fuel imports, with respect to socio-economic determinants, inflation and the exchange rate were the most influential and significant variables and of the determinants of fiscal and trade balances such as fiscal and trade deficits were not as significant or influential but have a causal relationship with long-term vulnerabilities. in the face of significant changes or peaks in the price of oil.

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